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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,963	06/15/2001	Akira Murakawa	018775-833	5969

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EXAMINER	
DIVINE, LUCAS	
ART UNIT	**PAPER NUMBER**
2624	

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/880,963	MURAKAWA ET AL.	
	Examiner	Art Unit	
	Lucas Divine	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 April 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claims 1 – 20 are pending.

2. Specification and Drawing objections withdrawn due to adequate amendments.

Response to Arguments

3. Applicant's arguments filed 4/25/05 have been fully considered but they are not persuasive.

With respect to applicant's argument that when the type of image data is not determined to be color gray bit map image, processing is skipped so therefore not all data converted by the converter passes a detector.

In reply, Kakiuchi et al. (US 6687017) clearly teaches that processing in the image recognition unit 201 does not take place if the data is not color gray bit map image as indicated by applicant (see col. 10 line 59 – col. 11 line 4). But the conclusion that not all data converted by the converter passes the detector does not lead from this fact. BOTH the converter (2012, Fig. 2) and the detector (2015, Fig. 2) are within the image recognition unit 201. So therefore, all data sent to the image recognition unit (color gray bit map data) is converted and all of this data that has been converted passes the detector as shown in Fig. 2. Data that does NOT get sent to the image recognition unit because of the fact listed above (data other than gray bit map data) does not get converted or detected because it has not entered the image recognition unit as taught by Kakiuchi. To be plain, image data can go one of two ways:

1) gray bit map data – through image recognition unit 201 where all data is converted and detected; or

2) other data – does not go through image recognition unit 201 at all and therefore does not go through converter 2012.

Thus, all data that goes through the converter does pass the detector and the rejection is maintained.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claim 16 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The storage medium claimed is merely a set of instructions per se that is 'stored' on a medium, which could range from a piece of paper to the computer code in someone's mind. Since the storage medium program is merely a set of instructions not embodied on a computer readable medium to realize the computer program functionality, the claimed subject matter is non-statutory. See MPEP § 2106 IV.B.1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 – 13, 15, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Kakiuchi et al. (US 6687017) hereafter referred to as Kakiuchi.

Regarding claim 1, Kakiuchi teaches **an image processor which processes input data and outputs the processed data to an image output device** (Figs. 1 and 2, wherein the printer processing units accept input data from computer 901 and output processed data to printing out device 202) **comprising:**

a first converter which converts the input data to output data by processing the input data according to data type (data binarization portion 2012 as shown in Fig. 2 converts the input data [of various types – see col. 10 lines 45-55 for types of input data that are binarized] to binary data for printing); **and**

a detector which detects a specified pattern in the data after converted by said first converter (matching portion 2015 of Fig. 2 detects specified patterns as part of the image recognition unit 201 after the data is converted by unit 2012; col. 9 lines 55-60 and col. 10 lines 19-24), **wherein all the data converted by said first converter passes said detector** (as shown in Fig. 2, all data that is converted by unit 2012 flows through the diagram and through matching portion 2015).

Regarding claim 2, which depends from claim 1, Kakiuchi further teaches **a controller which controls the output of the data converted by said first converter according to a result of the detection by said detector** (Fig. 1 ref. no. 203, col. 9 lines 60-65 and col. 10 lines 30-33,

wherein the controller receives the result of the image recognition and controls the output of the print document based on said result).

Regarding claim 3, which depends from claim 1, Kakiuchi further teaches that **first converter converts the input data to bit map data to be outputted** (it is inherent that printing and pattern detecting be completed on bit map data; for example counterfeiting prevention in matching portion is done on bit map data [col. 11 line 31] which is data that has been converted by binarization unit 2012).

Regarding claim 4, which depends from claim 3, Kakiuchi further teaches that

when the input data is a vector data, said first converter converts the vector data to bit map data by calculation on the vector data (col. 10 line 49 teaches drawing commands including lines etc... which act as vector data to be calculated into bitmap data by binarization unit 2012) **and**

when the input data is a text data, said first converter converts the text data to bit map data with reference to font data (col. 10 line 48 teaches converting texts of characters formed of fonts, thus teaching converting font input data to bit map data in regards to the character fonts).

Regarding claim 5, which depends from claim 1, Kakiuchi further teaches **an image combiner which combines the data converted by said first converter according to data type to generate an image data** (feature amount extraction portion 2013 inherently must combine the bit map data inputted from the binarization unit 2012 into image data to be able to analyze the print page as a whole to determine feature information for the matching unit),

wherein said detector detects the specified pattern in the image data generated by said image combiner (as shown in Fig. 2, matching portion 2015 acting as a pattern detector detects pattern information in data received from feature extraction portion 2013).

Regarding claim 6, which depends from claim 1, Kakiuchi further teaches **a second converter which converts the data converted by said first converter according to data type to data of output colors of an image output device** (functional block 2012 includes two converting functions, a first function to binarized the image data and a second to perform color conversion),

wherein said detector detects the specified pattern in the data which has been converted by said second converter (as shown in Fig. 2, matching portion 2015 acting as a pattern detector detects pattern information in data received from color conversion unit 2012).

Regarding claim 7, which depends from claim 1, Kakiuchi further teaches that **said first converter and said detector are incorporated in a driver for an image output device** (as shown in Fig. 1, the image recognition unit [which holds the converter and detector] works with the controller 203 to drive the operation of printing out device 202; for example the image recognition makes a pattern matching decision that controls whether or not the print request will be completed, thus determining the driving information for printer 902).

Regarding claim 8, Kakiuchi teaches **a print system** 902 **having an image processor** (image processing section 201) **which processes data and a printer which prints data received from said image processor** (printing out device 202), **comprising:**

a first converter which converts the input data to output data by processing the input data according to data type (data binarization portion 2012 as shown in Fig. 2 converts the input data [of various types – see col. 10 lines 45-55 for types of input data that are binarized] to binary data for printing); **and**

a detector which detects a specified pattern in the data after converted by said first converter (matching portion 2015 of Fig. 2 detects specified patterns as part of the image recognition unit 201 after the data is converted by unit 2012; col. 9 lines 55-60 and col. 10 lines 19-24), **wherein all the data converted by said first converter passes said detector** (as shown in Fig. 2, all data that is converted by unit 2012 flows through the diagram and through matching portion 2015).

Regarding claim 9, which depends from claim 8, Kakiuchi further teaches that **first converter converts the input data to bit map data to be outputted** (it is inherent that printing and pattern detecting be completed on bit map data; for example counterfeiting prevention in matching portion is done on bit map data [col. 11 line 31] which is data that has been converted by binarization unit 2012).

Regarding claim 10, which depends from claim 9, Kakiuchi further teaches that

when the input data is a vector data, said first converter converts the vector data to bit map data by calculation on the vector data (col. 10 line 49 teaches drawing commands including lines etc... which act as vector data to be calculated into bitmap data by binarization unit 2012) **and**

when the input data is a text data, said first converter converts the text data to bit map data with reference to font data (col. 10 line 48 teaches converting texts of characters

formed of fonts, thus teaching converting font input data to bit map data in regards to the character fonts).

Regarding claim 11, which depends from claim 8, Kakiuchi further teaches **an image combiner which combines the data converted by said first converter according to data type to generate an image data** (feature amount extraction portion 2013 inherently must combine the bit map data inputted from the binarization unit 2012 into image data to be able to analyze the print page as a whole to determine feature information for the matching unit),

wherein said detector detects the specified pattern in the image data generated by said image combiner (as shown in Fig. 2, matching portion 2015 acting as a pattern detector detects pattern information in data received from feature extraction portion 2013).

Regarding claim 12, which depends from claim 8, Kakiuchi further teaches **a second converter which converts the data converted by said first converter according to data type to data of output colors of an image output device** (functional block 2012 includes two converting functions, a first function to binarized the image data and a second to perform color conversion),

wherein said detector detects the specified pattern in the data which has been converted by said second converter (as shown in Fig. 2, matching portion 2015 acting as a pattern detector detects pattern information in data received from color conversion unit 2012).

Regarding claim 13, which depends from claim 8, Kakiuchi further teaches that **said first converter and said detector are incorporated in a driver for an image output device** (as shown in Fig. 1, the image recognition unit [which holds the converter and detector] works with the controller 203 to drive the operation of printing out device 202; for example the image

recognition makes a pattern matching decision that controls whether or not the print request will be completed, thus determining the driving information for printer 902).

Regarding claim 15, the structural elements of apparatus claim 1 perform all of the method steps of method claim 15. Therefore, the method steps of claim 15 are rejected for the same reasons as the rejected structural elements of apparatus claim 1 above.

Regarding claim 16, the method steps of method claim 15 are the same as the program steps of program claim 16. Therefore, the program steps of program claim 16 are rejected for the same reasons as discussed in the rejection of method claim 15 above. Further, the printer includes controller 203 which inherently includes a processor and a memory for executing program steps (example shown in Fig. 6 – CPU 1 and memory 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kakiuchi.

Regarding claim 14, which depends from claim 8, Kakiuchi does not specifically teach that functional units of image recognition unit 201 [including converting unit 2012 and detecting unit 2015] are inside the printer controller 203. It would have been obvious to one of ordinary

skill in the art that the Kakiuchi teaches functional units and these units can be embodied as one single physical device holding all of the functional units. The motivation for doing so would have been to simply the physical structure of the printer by having all of the image processing functionality on one processor/chip/card or the like.

7. Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kakiuchi as applied to claims 1 and 8 above, and further in view of Lapstun et al. (US 6912067).

Regarding claims 17 and 19, which depend from claim 1 and 13, Kakiuchi teaches the color conversion as part of converting unit 2012 for converting bit map data (color gray bit map images that are input to the image recognition unit 201; col. 10 lines 55 – 67) and Kakiuchi teaches the image data that can be printer are vector data (col. 10 line 49-50), text data (col. 10 line 48), and bit map data (col. 10 lines 51-55) and Kakiuchi teaches identifying the object type to decide whether or not to process the data.

Kakiuchi does not expressly teach separate processing units for the different types of objects identified in the system.

Lapstun teaches separate processing units for different types of data (Fig. 2, wherein separate rendering is done for images and text).

It would have been obvious to one of ordinary skill in the art that each type of input data has it own characteristics and to process each separately. The motivations for doing so would have been to speed up processing by allowing separate parts of image data to convert concurrently and to increase output quality by performing data type specific processing. Thus in

the combined system Kakiuchi would have different converting units in the printer itself for converting the image data for printing.

8. Claims 18 and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Kakiuchi as applied to claims 1 and 13 above, and further in view of Owada et al. (US 6108098).

Regarding claims 18 and 20, which depend from claim 1 and 13, Kakiuchi teaches the color conversion as part of converting unit 2012 for converting bit map data (color gray bit map images that are input to the image recognition unit 201; col. 10 lines 55 – 67) and Kakiuchi teaches the image data that can be printer are vector data (col. 10 line 49-50), text data (col. 10 line 48), and bit map data (col. 10 lines 51-55) and Kakiuchi teaches identifying the object type to decide whether or not to process the data.

Kakiuchi does not expressly teach separate processing units for the conversion according to data type.

Owada teaches separate conversions and detectings based on data type (Fig. 3, wherein conversion and image recognition is done based on cyan, magenta or yellow data type).

It would have been obvious to one of ordinary skill in the art that that each type of input data has it own characteristics and to process each separately. The motivations for doing so would have been to speed up processing by allowing separate parts of image data to convert concurrently and to increase output quality by performing data type specific processing.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucas Divine whose telephone number is 571-272-7432. The examiner can normally be reached on Monday - Friday, 7:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lucas Divine
Examiner
Art Unit 2624

ljd

KING Y. POON
PRIMARY EXAMINER